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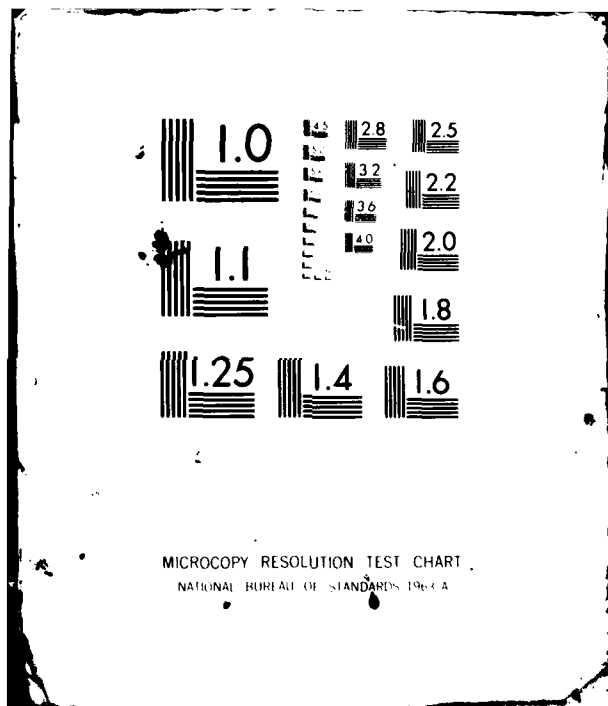
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SEMIANNUAL REPORT TO CONGRESS  
ON THE  
EFFECTIVENESS OF THE CIVIL AVIATION SECURITY PROGRAM



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JANUARY 1 - JUNE 30, 1981

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
OFFICE OF CIVIL AVIATION SECURITY

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16. Abstract The report includes an analysis of the current threat against civil aviation along with information regarding hijacking attempts, security incidents, bomb threats, and passenger screening activity. It also summarizes ongoing activities to assure adequate protection of civil air commerce against hijacking/sabotage and related crimes, and other aspects of the Civil Aviation Security Program.			
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U.S. Department  
of Transportation

Federal Aviation  
Administration

Office of the Administrator

800 Independence Ave., S.W.  
Washington, D.C. 20591

NOV 9 1981

The Honorable George Bush  
President of the Senate  
Washington, D.C. 20510

Dear Mr. President:

Enclosed is the Federal Aviation Administration's Semiannual Report to Congress on the Effectiveness of the Civil Aviation Security Program. It covers the period January 1 through June 30, 1981, and is submitted in accordance with section 315(a) of the Federal Aviation Act.

Three U.S. air carrier hijackings occurred during the first half of 1981. All were unsuccessful; however, in one of these incidents, the hijacker used a pistol which passed through the screening system undetected, and in another, a Cuban refugee used a small bottle of flammable liquid as a weapon. These incidents establish that while the screening system is effective it is not infallible and a continuing need exists to maintain a high level of awareness at all screening checkpoints.

A new regulation setting forth airline security procedures became effective in September. This regulation establishes security safeguards appropriate to the various levels of passenger operations based on experience and the existing threat and provides airlines and airport operators with potential cost saving opportunities while continuing to assure effective security.

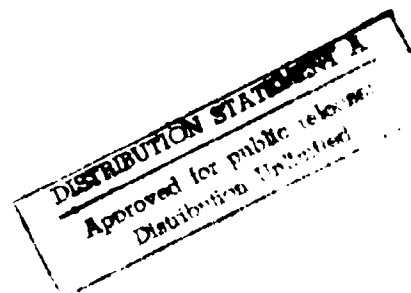
Based on the various levels of threat identified in support of issuance of the new regulation, another major initiative was finalized during September. This initiative allows airport operators greater flexibility in providing necessary law enforcement personnel to support airline screening systems. To complement this increased law enforcement flexibility, airline security program modifications will provide for the addition of security supervisors and/or special police communications equipment at screening checkpoints. This initiative, as well as issuance of the new regulation, is responsive to the taxpayers' demands for cost reduction and improved productivity, while at the same time, assuring that essential levels of safety and security are maintained at all airports.

The enclosed report has also been sent to the Speaker of the House of Representatives.

Sincerely,

J. Lynn Helms  
Administrator

Enclosure





U.S. Department  
of Transportation

Federal Aviation  
Administration

Office of the Administrator

800 Independence Ave., S.W.  
Washington, D.C. 20591

NOV 9 1981

The Honorable Thomas P. O'Neill, Jr.  
Speaker of the House of  
Representatives  
Washington, D.C. 20515

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Sincerely,

  
J. Lynn Helms  
Administrator

Enclosure

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## I. EXECUTIVE HIGHLIGHTS

1. THIS REPORT COVERS THE PERIOD JANUARY-JUNE 1981.
2. U.S. SECURITY REQUIREMENTS COVER 190 U.S. AND FOREIGN AIRLINES OPERATING OVER 15,000 FLIGHTS DAILY FROM OVER 640 U.S. AND FOREIGN AIRPORTS.
3. ABOUT 294 MILLION PERSONS PROCESSED THROUGH U.S. PASSENGER CHECKPOINTS. OVER 970 FIREARMS DETECTED WITH OVER 530 RELATED ARRESTS.
4. WORLDWIDE, 10 SCHEDULED AIR CARRIER HIJACKINGS OCCURRED (2 SUCCESSFUL). 3 AGAINST U.S. AIRLINES (NONE SUCCESSFUL).
5. THE 3 HIJACKINGS OF U.S. AIR CARRIER AIRCRAFT ARE THE LEAST FOR ANY HALF-YEAR PERIOD SINCE JUNE 1978 BUT ONE INVOLVED A REAL FIREARM PENETRATING THE SCREENING SYSTEM.
6. THERE WAS 1 U.S. GENERAL AVIATION AIRCRAFT HIJACKING (SUCCESSFUL). THE FIRST SINCE MAY 1980.
7. CIVIL AVIATION REMAINS VULNERABLE TO TERRORIST ACTS. AREAS OF GREATEST DANGER ARE EUROPE, THE MIDDLE EAST, AND CENTRAL AMERICA. IN THE U.S., ANTI-CASTRO, AND PUERTO RICAN NATIONALIST GROUPS CONTINUE TO POSE A THREAT.
8. EIGHT HUNDRED SEVENTY BOMB THREATS AGAINST AIRCRAFT AND AIRPORTS.

9. WORLDWIDE CRIMINAL ACTS AGAINST CIVIL AVIATION INCLUDED 12 HIJACKINGS, 12 EXPLOSIONS, 7 EXPLOSIVE DEVICES DISCOVERED, AND 4 TERRORIST ATTACKS.
10. CRIMINAL ACTS AGAINST CIVIL AVIATION CAUSED 11 DEATHS AND 24 INJURIES (2 DEATHS AND 3 INJURIES IN THE U.S.).
11. PRINCIPAL GOVERNMENT/INDUSTRY ACTIONS DURING THE REPORTING PERIOD:
  - A. GOVERNMENT/INDUSTRY HIJACKING CRITIQUES AND EXERCISES CONTINUED.
  - B. MONITORING OF FOREIGN AIR CARRIER PASSENGER SCREENING PROCEDURES INCREASED.
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  - E. ALTERNATIVES TO AIRPORT LAW ENFORCEMENT REQUIREMENTS UNDER STUDY.
  - F. OPERATION EVALUATION OF X-RAY ABSORPTION SYSTEM TO DETECT BOMBS IN CHECKED BAGGAGE COMPLETED. SYSTEM IS THE FIRST AVAILABLE ANYWHERE IN THE WORLD.
  - G. OTHER RESEARCH AND DEVELOPMENT PROJECTS TO IMPROVE EXPLOSIVE DETECTION CAPABILITIES ON SCHEDULE.

## II. INTRODUCTION

This is the 14th Semiannual Report to Congress on the Effectiveness of the U.S. Civil Aviation Security Program. It covers the period January 1 - June 30, 1981, and is submitted in accordance with section 315(a) of the Federal Aviation Act.

## III. U.S. AIRCRAFT HIJACKINGS

The three U.S. scheduled air carrier aircraft hijackings during this reporting period were the least in number during any 6-month period since the first half of 1978. While the reduction in air carrier hijackings is encouraging, it is most significant that all were unsuccessful. In one case, however, the hijacker did manage to pass a pistol through the screening system without detection. This again establishes that while the screening system is effective, it is not infallible and that constant vigilance at screening checkpoints is essential to its success. In each of the three cases, the hijackers were thwarted by the successful application of defensive measures. Crewmember actions in these hijackings indicate that airline training and security awareness are producing a growing confidence in the ability to defeat hijack attempts. During this period, there was one general aviation (helicopter) hijacking in connection with a jailbreak attempt. The hijacking was successful; the jailbreak was not.

The following is a brief summary of the one general aviation hijacking and the three U.S. scheduled air carrier aircraft hijackings which occurred during the first half of 1981:

(See Exhibits 1, 2, and 3.)

- O January 25 - While on a charter flight over Manhattan Borough, New York, an AS-350 helicopter was hijacked by a man and a woman. The woman had chartered the helicopter from Island Helicopter Corporation, Teterboro Airport, New Jersey, for the alleged purpose of using it to show Manhattan real estate properties. She had chartered helicopters from the same firm on the two previous days, allegedly for the same purpose. While in the air over Manhattan, the woman offered the pilot \$50,000 to land on the roof of the Metropolitan Federal Correction Center in downtown Manhattan. When the pilot refused, the woman's male companion produced a sawed-off carbine and forced him to land on the metal grating roof above the recreation area of the correction center. The man, carrying an escape ladder, departed the helicopter and dropped a handgun through the grating to a prisoner in the recreation area. Both he and the woman unsuccessfully tried to cut through the grating with wirecutters. They then reboarded the helicopter and forced the pilot to bounce the helicopter on the grating in an effort to break through. Unsuccessful, they then flew to a heliport on the west side of Manhattan where the hijackers deplaned and fled in a waiting automobile driven by another woman. The weapon dropped to the prisoner was surrendered to prison authorities. Five persons have been arrested in connection with

this incident they have been variously charged with air piracy, kidnapping, attempted escape, and assault on a Federal officer.

- o February 5 - While on a domestic flight from New York, New York, to San Juan, Puerto Rico, an Eastern Air Lines L-1011 aircraft was hijacked by a lone male passenger. The hijacker claimed to have a bomb in a cloth sack and demanded to be flown to Cuba. However, the aircraft continued on to San Juan. After landing and opening of the deplaning door an Eastern Air Lines flight crewmember, traveling as a passenger, grabbed the hijacker's cloth sack and threw it out the door. He then pushed the hijacker out the door of the aircraft where he was taken into custody by law enforcement officials. The hijacker had no explosives or other weapons. He has been committed to a mental institution.
- o March 5 - After the passengers boarded a Continental Air Lines B-727 aircraft, preparing for a flight from Los Angeles, California, to Phoenix, Arizona, a lone male pushed his way aboard the aircraft. Displaying a pistol and holding a briefcase and what appeared to be a remote control device, the hijacker took five first class passengers and two flight attendants hostage. During negotiations with Federal Bureau of Investigation (FBI) agents, the hijacker claimed that his briefcase contained explosives which could be activated by his remote control device. He demanded \$3 million and a helicopter. After several hours, the hijacker deplaned and surrendered without incident. A search of the aircraft, the hijacker, and his briefcase revealed no explosives. The nine millimeter automatic pistol was left on the aircraft by the hijacker and was recovered by the FBI. He has been convicted of air piracy and is awaiting sentence.
- o April 10 - An Eastern Air Lines A-300 aircraft was en route from New York, New York, to Miami, Florida, when a male passenger moved to the rear of the aircraft and started shouting "Havana, Havana" and "Cuba, Cuba." He threatened a flight attendant with a plastic bottle apparently containing a flammable liquid and then lit a small quantity of the flammable liquid which burned briefly near the rear water fountain. Flight attendants quickly put out the fire with on-board fire extinguishers, and with passenger assistance overpowered the hijacker. After the aircraft landed in Miami, it was determined that the hijacker had died of asphyxiation during the incident.

The number of hijackings or other crimes against civil aviation which have been prevented or deterred by airline and airport security procedures cannot be determined with certainty. The Federal Aviation Administration (FAA), however, has attempted to identify and record incidents in which it appears that individuals intended to commit crimes against civil aviation but were prevented from doing so by security procedures in effect. Three incidents of this kind occurred during the first half of 1981, raising the total number of hijackings

or related crimes believed prevented to 93 since 1973. Below is a brief summary of the three incidents:

(See Exhibit 4.)

- April 24 - A passenger, who was identified as a potential hijacker through application of special security procedures, was placed under escort for special security screening. Apparently realizing he had been selected out for special attention and prior to initiation of the extraordinary measures, the man suddenly ran away. He left with his carry-on bag but left behind his airline ticket, ticket receipt, checked baggage tag, and boarding envelope. The checked bag was examined and found to contain no weapons or explosives. No attempt has been made to claim the checked bag and the man has not been identified.
- June 2 - During application of the special security procedures mentioned above, a small plastic toy pistol was found in the waistband at the small of a male passenger's back. During further search, he was found to be carrying a Cuban passport and a note indicating that his mother was in Cuba and was very sick. Upon interview by a law enforcement officer, the man indicated that he wanted to go to Cuba and that he had received treatment in various mental hospitals. He has been charged with attempted aircraft piracy and is undergoing psychiatric evaluation in a Federal medical center.
- June 2 - A male, ticketed as a passenger and wearing a false beard, cleared through the passenger screening point with one carry-on bag. Within 15 minutes, he left the sterile area without his carry-on bag. A short while later, he returned to the passenger screening point with another carry-on bag which upon physical examination was found to contain four plastic 1-gallon sized bottles of flammable liquid. The man claimed to have no identification. When told he would not be allowed to board his flight with the flammable liquid, he retrieved his other carry-on bag from within the sterile area and left the area. Later he was confronted by a law enforcement officer, and produced identification as well as the bottles of flammable liquid, indicating he intended to use the flammable liquid to paint a house. Examination of the man's airline ticket revealed that it was made out in a name other than his. He was released in the custody of his son with the understanding that he would seek psychiatric help.

#### IV. FOREIGN HIJACKINGS

During the first half of 1981, just as during the first half of 1980, there were eight foreign aircraft hijackings. Seven were against scheduled foreign air carriers and one against a general aviation aircraft. Two of the seven air carrier hijackings and the one general aviation hijacking were successful. In five of the seven air carrier hijackings the hijackers carried real firearms. In one of the seven, the hijacker was armed with an explosive and in another,

the hijacker carried flammable liquid. In the five incidents where the hijackers were armed with real firearms, available information indicates that the weapons were introduced through the normal passenger boarding process and should have been intercepted by an efficient passenger and carry-on baggage screening system.

(See Exhibit 2.)

#### V. AIRCRAFT/AIRPORT SABOTAGE

During the reporting period four significant incidents occurred in the United States involving actual or suspected explosive devices affecting aircraft or airports. These incidents are summarized below:

(See Exhibit 7.)

- o April 4 - A military explosive simulator device was detonated in a men's restroom in the main terminal at National Airport, Washington, D.C. Two custodial employees were injured and minor property damage resulted.
- o April 13 - Two fragmentation hand grenades were discovered in a waste container near an airline ticket counter at the Miami International Airport, Miami, Florida. They were safely removed by bomb technicians.
- o May 4 - An anonymous extortion threat received at the security office at the Greater Pittsburgh International Airport claimed that an explosive device was on board a USAir flight then en route from Pittsburgh, Pennsylvania, to Phoenix, Arizona. The caller further advised that information regarding the bomb could be found in a flight bag located in one of the airport's restaurants. The flight bag was located containing all the components for an explosive device except for the actual blasting cap and explosives. In the bag a note demanded \$500,000 for information on how to locate and disarm the device alleged to be on the USAir flight. The flight was diverted, searched, and no explosive device was found. The extortionist has not been identified.
- o May 16 - A pipe bomb exploded in a men's restroom at John F. Kennedy International Airport (JFK), New York, New York, killing an airport employee and causing extensive damage to the Pan American World Airways (Pan Am) area of the terminal. Minutes before the explosion, airport police received a telephone call from an anonymous male saying he represented the Puerto Rican Armed Resistance Group and warned that two other bombs had been placed in the terminal and one on Pan Am, Flight 403, bound for Guatemala. The aircraft was brought back to the terminal, evacuated, and searched with negative results. Subsequently, two additional bombs were found in the terminal, one in a ladies' restroom and the other near a Pan Am gate. They were safely removed from the terminal. Person(s) responsible have not been identified.

## VI. BOMB THREATS

Threats involving the use of explosives against aircraft and airports totaled 870 during the period January - June 1981. This represents an 11 percent increase over the 782 threats received during the last half of 1980 and almost a 31 percent increase over the 665 received during the first half of 1980.

There were 600 bomb threats against aircraft during the period which is approximately 8 percent less than the 655 threats received during the last half of 1980. Of the 600 threats, 396 were considered serious as defined in Exhibit 5. About 343 (87 percent) of the serious threats were received by telephone. The other 53 (13 percent) were made in writing or verbally or were the result of locating suspect devices at various airport locations. As a result of the serious threats, at least 281 searches were conducted and 152 flight delays or diversions occurred. There were 27 U.S. airlines and 24 foreign airlines involved in these serious threats. The threats in 9 cases were accompanied by extortion demands.

The great majority of bomb threats against airports were received under circumstances which made an evaluation as to their seriousness impractical. There were 270 bomb threats received against airports during this reporting period. At an annual rate this is more than double the 268 total received during the entire year of 1980. It is also almost 113 percent greater than the 127 received in the last half of 1980. This significant increase is due principally to the publicity given to the pipe bomb which exploded at JFK, in May which resulted in the death of one person and extensive property damage. Of the 270 threats, 70 (26 percent) were directed against JFK and 25 (9 percent) were against nearby La Guardia Airport in New York. The 270 bomb threats resulted in at least 148 searches, 23 evacuations of airport facilities, and 3 flight delays. Extortion demands were included in 5 of the threats.

(See Exhibits 5, 6, and 7)

## VII. CURRENT THREAT ESTIMATE

Civil aviation continues to be an attractive and dramatic target worldwide. Aircraft hijackings and sabotage continue to threaten the lives and property of persons working and traveling in air transportation.

A total of 10 air carrier hijackings (2 successful) occurred worldwide during the January - June 1981 period. If this level of hijackings continues during the remainder of 1981, the total for the year will be less than the 25 which occurred during the last 6 months of 1980. Fourteen of the 25 hijackings in 1980 were perpetrated by Cuban refugees who entered the United States within that timeframe.

Acts of terrorism continue to pose a threat to civil aviation throughout the world. During this reporting period, 5 of the 10 air carrier hijackings were committed by terrorists. The greatest danger remains in Europe, the Middle East, and Central America. Various groups in these areas such as the Popular

Front for the Liberation of Palestine, the Japanese Red Army (inactive since 1977), the West German Red Army Faction, the Italian Red Brigade, and the Spanish Basque Separatist group continue to maintain connections, associations, and cooperate with and assist each other. The loose ties enhance and increase the capabilities of these groups to carry out their terrorist acts against international targets.

Although Palestinian terrorists groups have not been active against civil aviation during the last few years, they continue to have a terrorist capability, thus, remaining a threat. It is estimated that terrorist activity against international targets will be renewed if some progress is not made toward resolution of the Middle East Arab-Israeli problem.

Several other terrorist organizations which constitute potential threats to civil aviation continued their activities in varying degrees during the reporting period. In West Germany, terrorist activity was kept at a low level by effective police countermeasures and the death and arrest of a number of Leftist leaders. The Italian Red Brigade also has been hard hit by aggressive police action, particularly during 1980. In Spain, the Basques continued assassinations and maiming of civilians, police, and the military. Armenian terrorists, members of the Secret Army for the Liberation of Armenia, continued their campaign against Turkish diplomats and airline offices including Trans World Airlines (TWA), primarily in Europe. Last year, two bombings - one outside the Turkish Center in New York City (injuring four persons), the other at a travel agency in New York City owned by Turkish Nationals (one person injured) - were the first operations to be conducted within the United States by Armenian terrorists.

In Central America, guerilla and terrorist groups continued their activities. A United States Embassy vehicle was bombed in Costa Rica, the United States Embassy was bombed several times in El Salvador, and a Honduras commercial aircraft was hijacked by members of a terrorist group.

In South America and the Far East, terrorist violence continued at a low level except in Columbia where terrorist activity has increased somewhat (hijacking, airport bombing, and kidnapping), and in Japan, where demonstrations and militant acts continued against the use of Narita Airport and its possible expansion.

In the United States, the anti-Castro groups and Puerto Rican nationalists continue to pose a threat to civil aviation. Early in January, the Puerto Rican Popular Army, better known as the Macheteros, claimed responsibility for detonating pipe bombs that destroyed or damaged 10 jet fighter aircraft (estimated value: \$45 million) at the Air National Guard air base which is colocated with the San Juan International Airport, San Juan, Puerto Rico. In May, Puerto Rican terrorists claimed responsibility for planting three bombs at JFK. One bomb detonated, killing a terminal worker, while two bombs were safely removed from the Pan Am terminal. A group called the Puerto Rican Armed



Resistance claimed responsibility for the fatal bombing and the planting of the other two bombs. This group had previously claimed responsibility for the bombing at the Pennsylvania Railroad Station in New York City on December 21, 1980. It is not known if there is any connection between the Armed Forces of National Liberation (FALN), the more publicized Puerto Rican terrorist organization, and the Puerto Rican Armed Resistance. Both apparently have the same goal - Puerto Rican independence.

Cuban boat lift refugees in the United States continue to pose a threat to civil aviation. Of the three unsuccessful air carrier hijackings during this reporting period, the objective in two instances was passage to Cuba. One of the two hijackings involved a Cuban refugee who had arrived in the United States during the large exodus from Cuba in 1980. Croatian and Serbian groups in the United States also continue to be a concern, however, these groups did not target civil aviation during the reporting period.

While the threat of hijacking persists, sabotage and other criminal acts continue to pose a serious threat to civil aviation. A total of 38 criminal acts worldwide occurred during the reporting period which resulted in 11 deaths and 24 injuries. Twelve of these incidents were hijackings (10 air carrier and 2 general aviation), 12 were explosions (7 at airlines offices and 5 at airports), and 7 incidents involved the discovery of explosive devices (1 at an airline office, 5 at airports, and 1 aboard aircraft). There were 4 terrorist attacks (one at an airport and the other three at airline offices). Three incidents (two airport explosions and a hijacking) occurred in the United States resulting in two deaths and three injuries.

Since 1974, worldwide criminal acts against civil aviation have resulted in 772 deaths and 815 injuries, with 118 deaths and 139 injuries involving U.S. civil aviation.

(See Exhibits 1, 2, 7, and 8.)

#### VIII. PASSENGER SCREENING

The 60 U.S. air carrier aircraft hijackings which have occurred since the initiation in 1973 of the requirement that all air carrier passengers be screened average to approximately 7 attempts per year. This average for the 8 1/2-year period is less than 1/3 of the yearly average for the 5 years immediately preceding the initiation of 100 percent passenger screening. The 3 hijackings which occurred during this reporting period all were unsuccessful and were the least in number for any equivalent period since June 1978.

During the first half of 1981, approximately 294 million persons were processed through screening checkpoints at the nation's 379 airports where passenger screening was conducted. A total of 971 firearms were detected during this period. This is approximately 6 percent lower than the average of 1,034 firearms detected during the preceding 8 reporting periods, 3 percent lower

than the total of 1,002 firearms detected during the same period in 1980, and 5 percent lower than the total of 1,020 firearms detected during the last half of 1980. Of the 971 firearms detected, 861 (89 percent) were discovered through X-ray inspection of carry-on items, 83 (8 percent) were detected through the screening of individuals by weapons detectors, and 27 (3 percent) by physical search. Eight incendiary devices were also detected during this period by physical search.

There were 534 persons arrested at screening points for carriage of firearms and incendiary devices. This represents an increase of approximately 5 percent over the 511 arrests which occurred during the last half of 1980 and an increase of approximately 12 percent over the average of 475 arrests for the preceding 8 reporting periods. The 534 arrests involved some 35 U.S. airlines at 96 U.S. airports. Two hundred and eighty-six (53 percent) of the arrests occurred at 25 large hub airports (e.g., Los Angeles, California, and Atlanta, Georgia); 153 arrests (29 percent) occurred at 30 medium hub airports (e.g., Baltimore, Maryland and Dayton, Ohio); and 95 arrests (18 percent) occurred at 41 small and nonhub airports (e.g., Corpus Christi, Texas and Colorado Springs, Colorado).

In 120 (23 percent) of the 534 arrests, the individuals involved were fined, placed in confinement, and/or placed on probation; in 82 (15 percent) of the cases, charges were dropped or dismissed, making a total of 202 cases settled. In the remaining 332 arrests (62 percent), action is still pending. Of the 202 cases which have been settled, 59 percent (the 120 cases cited above) have resulted in fines, confinement, or other disciplinary action.

(See Exhibit 9.)

Walk-through weapons detectors for the screening of persons and, at high volume stations, X-ray inspection systems for carry-on items are the primary types of equipment which presently are being used at screening checkpoints. Walk-through weapon detectors currently in use total 1,311 and X-ray baggage inspection systems number 739. Approximately 1,200 hand-held devices are also in place to be used as backup for the walk-through weapons detectors. Reactions received from airline passengers indicate that the screening procedures are now considered a normal part of aircraft boarding procedures and are both desired and expected.

(See Exhibits 10 and 11.)

#### IX. CIVIL AVIATION SECURITY ACTIONS

As basic policy the U.S. Civil Aviation Security Program calls for a sharing of responsibilities and cooperative efforts by the airlines, airports, local communities, air travelers, and involved Federal agencies. Initiatives are continually being advanced to make the system more effective and efficient, and to enhance the spirit of cooperation among all concerned. Passenger screening and other security measures in effect currently involve some 190 U.S. and foreign airlines operating about 15,250 flights per day from over 625 U.S. and foreign airports. During this reporting period, about 1.73 million persons with

about 1.76 million pieces of carry-on items were subjected to security screening each day.

(See Exhibits 12 and 13.)

Aircraft Security. Significant actions taken with regard to the security of aircraft to refine and improve existing procedures include revision of security regulations to identify appropriate levels of security for the various types of air carrier and air taxi/commercial operator operations, conduct of regional hijacking critiques and hijacking exercises, selected use of Federal Air Marshals for in-flight security, and special monitoring of foreign air carrier screening procedures. In addition, claims for compensation by certain U.S. air carriers for nonreimbursed international security costs were received for audit and processing. The following is a brief summary of these actions:

- O Proposed Federal Aviation Regulation (FAR) Part 108 - Air Carrier Security. During the reporting period, following extensive consultation with affected airline and airport operators, proposed new security regulations were finalized and issued. The new FAR Part 108, Air Carrier Security and complementary changes to FAR Part 107, Airport Security, and FAR Part 129, Operations of Foreign Air Carriers identify security requirements based on the different levels of threat to which specific types of operations and sizes of aircraft are exposed. This restructuring of security requirements assures that necessary safeguards are in effect to protect all persons traveling in air transportation from acts of criminal violence and air piracy.
- O Joint Government/Industry Hijacking Critiques. The FAA has continued its efforts to assure the security of the air traveling public through a program of hijacking critiques participated in by the FBI, the airlines, and others involved in aircraft hijackings. The intent is to encourage candid examination by Government and industry representatives of actual hijacking incidents so that all may benefit from the experience and be better prepared for future incidents. One critique was held during this reporting period with respect to the March 5 hijacking of a Continental Air Lines flight from Los Angeles to Phoenix.
- O Federal Air Marshal Utilization. In response to a series of specific hijack threats, Federal Air Marshal support was provided for a World Airways, May 15 flight from Newark, New Jersey, to Oakland, California. Federal Air Marshals, augmented by Federal Air Police from FAA's Washington National and Dulles International Airports, all deputized as Special Deputy United States Marshals, provided in-flight security and the flight was completed without incident.
- O FAA Monitoring of Foreign Air Carrier Passenger Screening Procedures. Prompted by reports of inadequate passenger security screening at various locations outside of the United States, the FAA initiated a special program of interviewing passengers arriving in the United States to

elicit information on screening procedures used and their effectiveness. This information is helpful in determining airline compliance with U.S. security requirements and provides an effective basis for targeting on-site inspection activities. These efforts focused on Central and South America during the reporting period.

- Joint Government/Industry Hijack Exercises. The FAA and FBI have taken the initiative in conducting regional hijacking exercises in coordination with other Government agencies and aviation industry personnel to test the hijacking management "common strategy" and the basic procedures established to support it. To date, many such exercises have been conducted with four occurring during this reporting period at Houston Intercontinental Airport, Houston, Texas; Tulsa International Airport, Tulsa, Oklahoma; Bradley International Airport, Hartford, Connecticut; and at JFK. They have proved beneficial to all participants and have contributed to an overall enhancement of the concept and the procedures designed to assure safe and successful conclusions of actual hijackings. Additional exercises will be conducted at various airports throughout the United States to further assure a universal understanding of the "common strategy" and its application.
- Compensation for Required Security Measures in Foreign Air Transportation. Special Federal Aviation Regulation (SFAR) Number 34, which became effective on August 27, 1980, establishes procedures for compensating air carriers who incurred nonreimbursable costs for screening passengers and their carry-on baggage moving in foreign air transportation during the period July 1, 1976, through September 30, 1978. The cutoff date for air carrier claims pursuant to the SFAR was June 30, 1981. Four certificate holders (Pan Am, TWA, Braniff Airways, and Northwest Airlines), have filed claims totaling \$12,114,921. The 1976 airport development aid program legislation (Public Law 94-353), which mandated compensation for such costs, authorized appropriation of only \$9 million to satisfy air carrier claims. The Office of the Inspector General, Department of Transportation, has initiated audit of the claims and, if verified, action will be taken to seek funding for payment.

Airport Security. Airport security measures continue to be effective. None of the three air carrier hijackings which occurred during this period resulted from airport security deficiencies or a breakdown in the FAA-approved airport security programs. While it is recognized that public airports in the United States realistically cannot be tightly secured in the manner of a military facility and still satisfy essential transportation needs, cooperation between all segments of the aviation industry and the FAA has resulted in maintenance of a secure posture at U.S. airports. Some of the initiatives underway during this reporting period include continuous training of law enforcement officers and others directly involved in aviation security, implementation of quick response law enforcement provisions at certain airports, consideration of possible law

enforcement support alternatives, and the explosive detection K-9 team program. The following is a summary of these activities:

- Civil Aviation Security Training. The formal classroom training primarily designed for local law enforcement officers assigned to support airline and airport security programs is conducted at the Transportation Safety Institute in Oklahoma City, Oklahoma. The course provides in-depth coverage of civil aviation security requirements, procedures, and techniques. As of June 30, a total of 105 classes have been conducted for 2,441 students, including 1,744 local law enforcement officers, 342 foreign students, 286 FAA employees, and 69 others, including representatives of other U.S. government agencies and aviation industry officials. In addition to the formal classes at Oklahoma City, special 2-day seminars, attended by 2,779 persons, have been conducted at 40 airports throughout the nation.
- Law Enforcement Quick Response Proposals. Experience has shown that at certain airports and, in some cases, at specified screening points within these airports, the law enforcement support required by law can be more effective if the officers are permitted to patrol in designated areas instead of remaining in fixed positions at passenger screening points. An airport desiring to implement this concept must develop a proposal which is submitted to FAA for review. If the agency finds that the proposal will result in enhanced security at the airport, the proposal is approved. Thus far, all approved proposals have included adoption of new procedures and improved communications equipment which assure that designated officers can respond quickly to the screening checkpoints. As of the end of June, quick response law enforcement systems have been approved for implementation at 33 airports.
- Industry/FAA Task Force Study of Law Enforcement Support. A task force made up of airline, airport, and FAA security officials initiated a study of law enforcement support requirements at passenger screening points. This study is examining the previous 8 years of passenger screening experience and the current threat estimate. The study goal is to determine whether airline and airport security programs can be modified in light of the current threat to provide for more effective utilization of law enforcement personnel at airports while at the same time continuing the maintenance of essential security safeguards. It is anticipated that new alternatives in these areas may result from this effort which will allow airline and airport operators to implement multilevel security safeguards keyed to the size of and security incident activity at various airports. Should this industry/Government analysis support such tailored security safeguards, airline security programs may be modified to strengthen security at passenger screening points. Based upon that strengthening, airport operators may be authorized greater flexibility in providing law enforcement support required by law and

regulation to protect people traveling in air transportation from acts of air piracy and other criminal violence.

- o Explosive Detection Dog/Handler Teams. The FAA, in cooperation with the Law Enforcement Assistance Administration (LEAA), has sponsored a program to strategically locate U.S. Air Force trained explosive detection K-9 teams in key cities near major airports. One dog and a handler constitute a team. The teams are positioned so that this emergency support will be readily available to threatened aircraft flying over the United States within 30 minutes flight time. Currently 30 airports can provide this emergency K-9 team explosive detection support. To date, in actual explosive detection missions, the teams have detected 44 explosive items in the course of 5,690 aircraft and airport searches. In addition, they have conducted 6,052 explosive searches in their local communities, detecting 177 additional explosive items.

(See Exhibit 14.)

Research and Development. Work continued on FAA's ongoing research and development program to develop effective and efficient techniques and equipment to detect explosives in checked baggage, in air cargo, and when carried by individuals. Action was also taken to develop an effective response against the use of flammable liquids by hijackers. The following is the current status of these efforts:

(See Exhibit 15.)

- o X-ray Absorption. Development of an X-ray absorption device represents the culmination of 8 years of research and development and is the first device of its type available anywhere in the world. The concept of X-ray absorption detection of explosives is based on an automatic computer based analysis of the size, shape, and X-ray density of checked baggage contents. An operational test of this technique at Newark International Airport, Newark, New Jersey, demonstrated sufficient detection capability to warrant further development. As a result, two detectors were modified for operational use. One was installed at Dulles International Airport, Washington, D.C., and an operational evaluation involving the processing of over 65,000 pieces of baggage was recently completed. Although the performance was somewhat less than anticipated, the system demonstrated that it can be effective in the detection of explosive devices in checked baggage. The second operational prototype system was delivered to the FAA Technical Center, Atlantic City, New Jersey, to test advanced computer programming techniques to enhance detection performance. A decision concerning the future production of this X-ray absorption system will be made upon completion of the evaluations of other experimental systems such as nuclear magnetic resonance and thermal neutron activation.
- o Thermal Neutron Activation. The technical feasibility of this concept, which involves identification of explosives by means of a chemical reaction unique to specific explosive materials, has been demonstrated.

A portable system has been constructed to allow testing at different airports. Thus far, testing has been conducted at Greater Pittsburgh International Airport, Pittsburgh, Pennsylvania, and Logan International Airport, Boston, Massachusetts. Analysis of the test data indicates that the system may be best suited for the processing of air cargo. A revised airport testing program for air cargo is being developed and is expected to be implemented during the fall of 1981.

- Nuclear Magnetic Resonance. This concept relies on the detection of a characteristic response of explosive molecules when they are subjected to magnetic and pulsed radio frequency fields. After a scale model of the system was constructed and the feasibility of this concept demonstrated, an airport evaluation to gather research and development data and to determine operating characteristics was conducted in the spring of 1979. An additional evaluation was conducted at Dallas-Fort Worth Regional Airport, Dallas, Texas, and analysis of this data showed that the concept is feasible. As a result, the laboratory model will be converted into an operational system and is expected to be ready for operational test and evaluation by the summer of 1982.
- Vapor characterization. A program to identify the types and quantities of unique vapors associated with different types of explosives has been completed. Vapor characteristics of each explosive of interest have been distinguished. In addition, vapor emission rates from various types of baggage have been determined. Based on these efforts, a specification for the development of an explosive vapor detector for checked baggage is being prepared.
- Use of Small Animals to Detect Explosives. A contract was awarded to the Philadelphia Medical Research Wing of the Veterans Administration, to determine the potential of small animals (e.g., gerbils and rats) in detecting explosives. It has been determined that these animals can be trained to detect an odor and perform a specific function. Testing is progressing to determine the specificity and sensitivity of these mammals. The contract is expected to be completed by the fall of 1981.
- Walk-by Explosive Detector. The Department's Transportation System Center is developing equipment which will detect explosives being carried by individuals. An unsuccessful attempt was made several years ago to develop a similar system. This new effort is being undertaken in view of the recent improvements in technology with regard to vapor collection and sampling. Success in this area would significantly contribute to the development of a complete explosive detection system covering all methods of placing explosives aboard aircraft. A prototype device is presently undergoing laboratory evaluation.
- Halon 1211 Fire Extinguishers. In an effort to reduce the effectiveness of the use of ordinary gasoline as a hijacking weapon, FAA conducted

extensive tests and produced a 12-minute video tape depicting the proper application of all types of hand-held fire extinguishers to combat gasoline fueled type fires and particularly the advantages of using the Halon 1211 type extinguisher. This video tape was distributed to all air carriers conducting passenger operations under FAR Part 121 on a no cost loan basis for inclusion in current training programs. The airlines have taken advantage of the experience gained from this effort and have either installed Halon 1211 hand-held extinguishers aboard their aircraft or are developing plans to do so.

- Commuter/Air Taxi/Corporate Aviation Antihijack Training Program. Production has begun on a hijack management slide/tape cassette training aid for use by commuter/air taxi and corporate aircraft operators. This program will be similar to the widely accepted FAA antihijack training aids recently developed in conjunction with the FBI and the aviation industry for crewmembers of large scheduled air carriers. The new program will be specifically directed toward smaller aircraft and the unique operational environment of the commuter/air taxi air carrier and the corporate aircraft operator. It is anticipated that this program will be completed and ready for distribution in the fall of 1981.

International Activities. During the reporting period most countries and international organizations continued to participate in discussions and activities designed to prevent or deter criminal acts against civil aviation. The joint efforts of the many actively involved nations have been very encouraging and have demonstrated a strong international desire to curtail these criminal acts. The following are some of the joint activities of countries and international organization which took place during the first half of 1981:

- Improvement in Relations Between United States and Cuba on Civil Aviation Security Matters. A delegation of Cuban civil aviation security officials traveled to Washington, D.C., in January to meet with FAA civil aviation security representatives. The purpose was to continue and expand on the dialogue previously established in meetings between Cuban and U.S. representatives held in Havana in October 1980. During this visit progress was made in assuring improved communications and close cooperation during aviation security emergencies. Additionally, the Cuban officials agreed to provide details concerning the identification of hijackers, types of weapons involved, etc. This represents a major departure from their earlier position on this matter. Fulfillment of this commitment would eliminate previously experienced difficulties in securing this data in certain incidents.
- International Criminal Police Organization (INTERPOL). In March, an FAA representative attended a meeting of the INTERPOL Committee on Civil Aviation Security in Saint Cloud, France. This was the third meeting of the committee and was attended by representatives from seven countries and four international organizations. As a result of discussions held at



the meeting, the committee prepared a recommendation to be submitted to the 50th INTERPOL General Assembly session in 1981 concerning the question of countries refusing landing permission to hijacked aircraft. This recommendation advised that INTERPOL member countries take into account the following principles when considering a request to land from an aircraft which is known or believed to be the subject of an act of unlawful interference:

1. The safest place for an aircraft in that situation is on the ground.
  2. No action should be taken to physically block runways or taxiways.
  3. No withdrawal or denial of essential navigational aids or the extinguishment of lighting facilities on runways or taxiways should take place.
- o International Civil Aviation Organization (ICAO) Security Seminar. In March, FAA represented the United States in ICAO's first North American/Caribbean Regional Security Seminar. Participants from 15 countries and 3 international organizations were in attendance. The primary purpose of the meeting was to provide a forum for an informal exchange of views and experience concerning security measures and procedures in place, discussion of additional measures needed, future cooperation between countries on aviation security matters, and the development and implementation of training programs. International regional seminars of this type have contributed significantly to the enhancement of civil aviation security and have improved regional cooperation between countries.
  - o Bonn Declaration on Hijacking. In July 1978, at an Economic Summit Conference held in Bonn, Germany, the Heads of State of seven nations including the United States issued a declaration of their commitment to combat terrorism. The Bonn Declaration announced that where a country refuses extradition or prosecution of those who have hijacked an aircraft or if the country does not return the aircraft, the seven nations would initiate action to cease all flights to that country, to halt all incoming flights from that country, or from any country by airlines of the country concerned. Officials of the seven countries met in Ottawa, Canada, at various times during April, May, and June. During these meetings discussions were held concerning the cases of international aviation hijackings which have occurred since July 1978. It was noted that in all 39 cases the aircraft were returned and the passengers allowed to continue their journey. The officials determined that as of the end of June there remained ten international hijacking incidents where the country in which the hijackers were found had not as yet complied with its obligations under the Hague Convention to extradite or

prosecute the offenders. Of particular concern was the case of the hijacking of a Pakistan International Airlines aircraft in March, in which it appeared that the Afghanistan Government's conduct was in flagrant disregard of its international obligations under the Hague Convention. It was proposed that the Bonn Declaration countries suspend all flights to and from Afghanistan in implementation of the Declaration unless Afghanistan took immediate steps to comply with its obligations and that other countries be urged to take appropriate action to persuade Afghanistan to honor its obligations. A statement to this effect was drafted for consideration of the Heads of State and Government during the Ottawa Economic Summit conference in July.

- o International Aviation Security Seminar. In May, an FAA representative participated in an international aviation security seminar held in Port Harcourt, Nigeria. In attendance were representatives of five nations and the International Air Transport Association. The agenda included the various aspects of civil aviation security including discussion of recommendations regarding security training and program improvements. The seminar participants prepared and adopted a resolution and communique to be presented to the Governments of the West African Subregion. The resolution called for all member countries to establish individual civil aviation security bodies and for the establishment of a formal West African Subregion Security Committee to exchange information, develop expertise, and coordinate activities and plans to prevent and deter aircraft hijackings and other crimes against civil aviation. The communique called for all West African Subregion countries to establish individual civil aviation security bodies, adopt 100 percent screening of all passengers and carry-on items for all international and domestic flights, develop airport security procedures, and endeavor to achieve cooperation in the form of common programs and mutual assistance.
- o International Civil Aviation Organization Antihijacking Resolution. In June, the 103rd session of the ICAO council adopted a resolution which expressed the council's concern regarding the failure of countries in recent international hijacking incidents to discharge their international commitments under the Hague, Tokyo, and Montreal conventions. The resolution advised that the council considers that any breach of those conventions poses a serious threat to the safety and orderly development of international civil aviation. Through this resolution the council called upon countries in the area in which alleged offenders are found to immediately take the necessary steps to comply fully with their obligations under the Hague Convention and with Assembly Resolutions. Finally, the resolution requests the President of the Council and the Secretary General of ICAO to report to the next session of the council on the status of compliance by ICAO member countries with the Hague Convention and related Assembly Resolution A23-21.

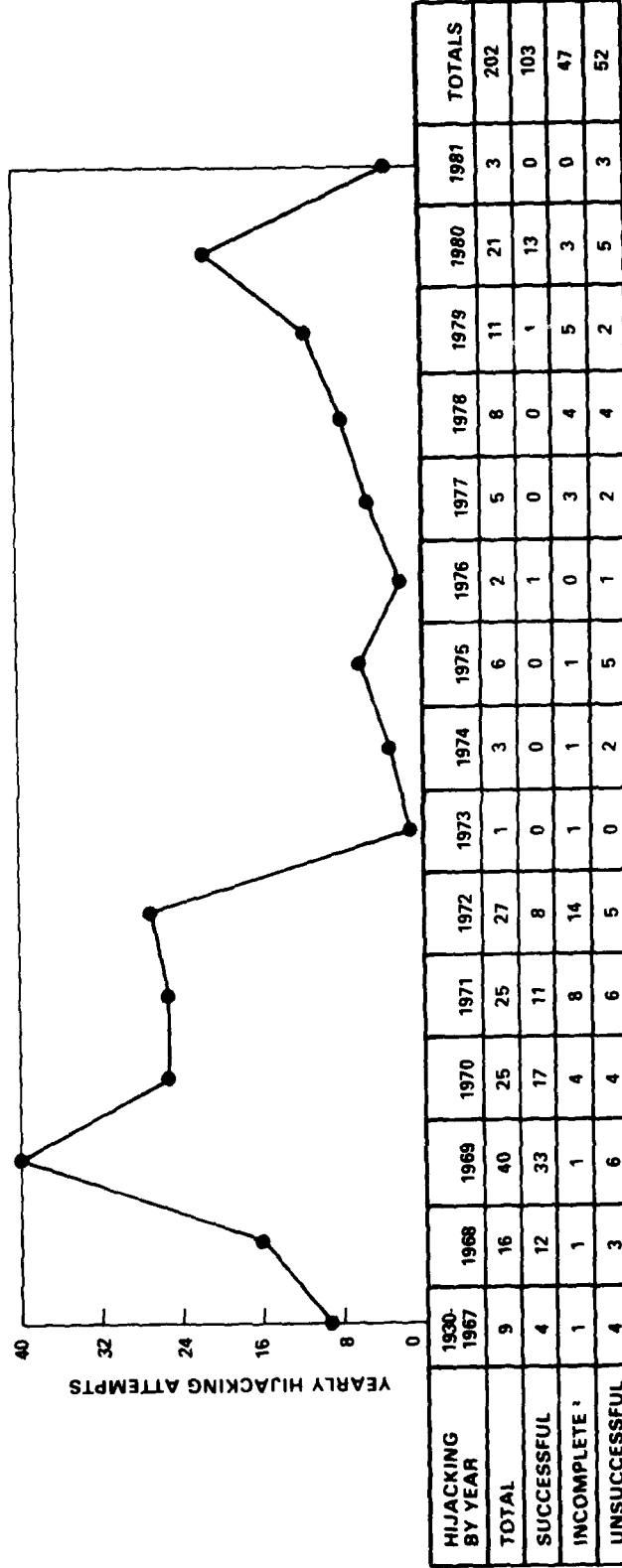
- o Foreign Technical Security Assistance. FAA has continued its bilateral technical assistance program and exchange of information. FAA technical assistance security teams visit foreign nations and conduct evaluations of security systems, provide training in security procedures, and assist in the assessment of technical security requirements. Additional assistance is provided through briefings of foreign civil aviation officials on security matters, through aviation security training programs offered at the Transportation Safety Institute, and through the distribution of analytical studies and training aids relating to civil aviation security. Technical assistance trips were sharply curtailed during the reporting period due to lack of funds. Trips that were made were funded on a reimbursable basis.

(See Exhibit 16.)

#### XI. OUTLOOK

Although the number of U.S. air carrier hijackings during the first half of 1981 is at a 2 year low, national and worldwide situations have not changed appreciably. Terrorist acts worldwide have continued especially in Europe, the Middle East, and Central America. Although efforts will continue to completely curtail aircraft piracy and other crimes against civil aviation, it is not expected that this goal will be achieved. Civil aviation because of its nature will remain a vulnerable and desirable target of criminal, mentally disturbed, and terrorist elements; therefore, it is expected that the current rate of aircraft piracy and related crimes will continue in the near future.

## Hijacking Attempts on U.S. Scheduled Air Carrier Aircraft <sup>1/</sup>



<sup>1/</sup> Includes commercial operators engaging in interstate common carriage covered by Code of Federal Regulations Title 14 Part 121.7.  
<sup>2/</sup> Hijacking in which hijacker is apprehended/killed during hijacking or a result of "hot pursuit".

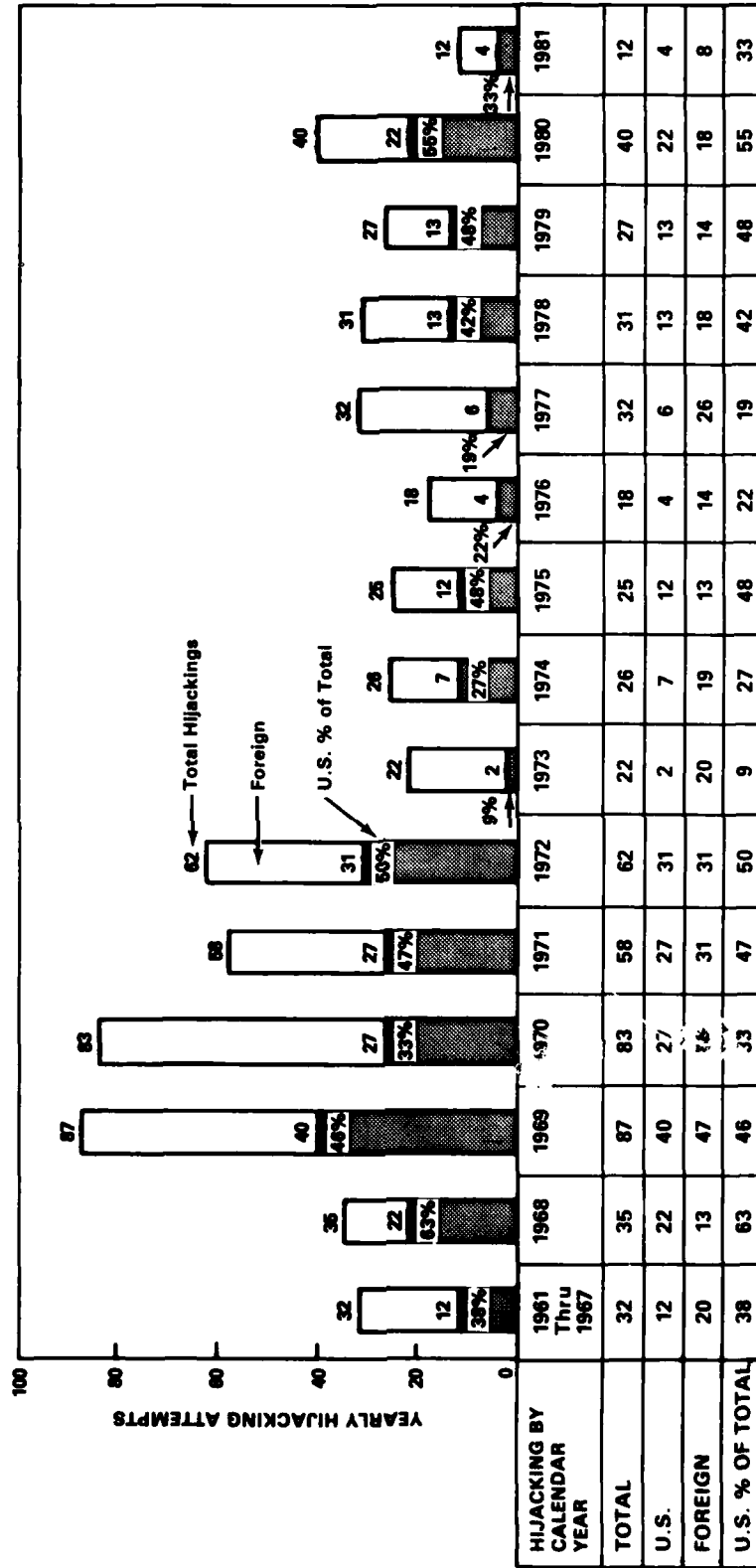
### U.S. Aircarrier Hijacking Attempts Since Jan. 1, 1981

Date	Airline-Flt/ Aircraft	Number Aboard	Hijacker's Boarding Point	Hijacker's Destination/ Objective
2/5	EA-929/L-1011	242	New York, NY (JFK)	Cuba
3/5	CO-72/B-727	92	Los Angeles, CA	\$3 Million Ransom
4/10	EA-17/A300B	148	New York, NY (LGA)	



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## Hijacking Attempts on U.S. And Foreign Aircraft\*



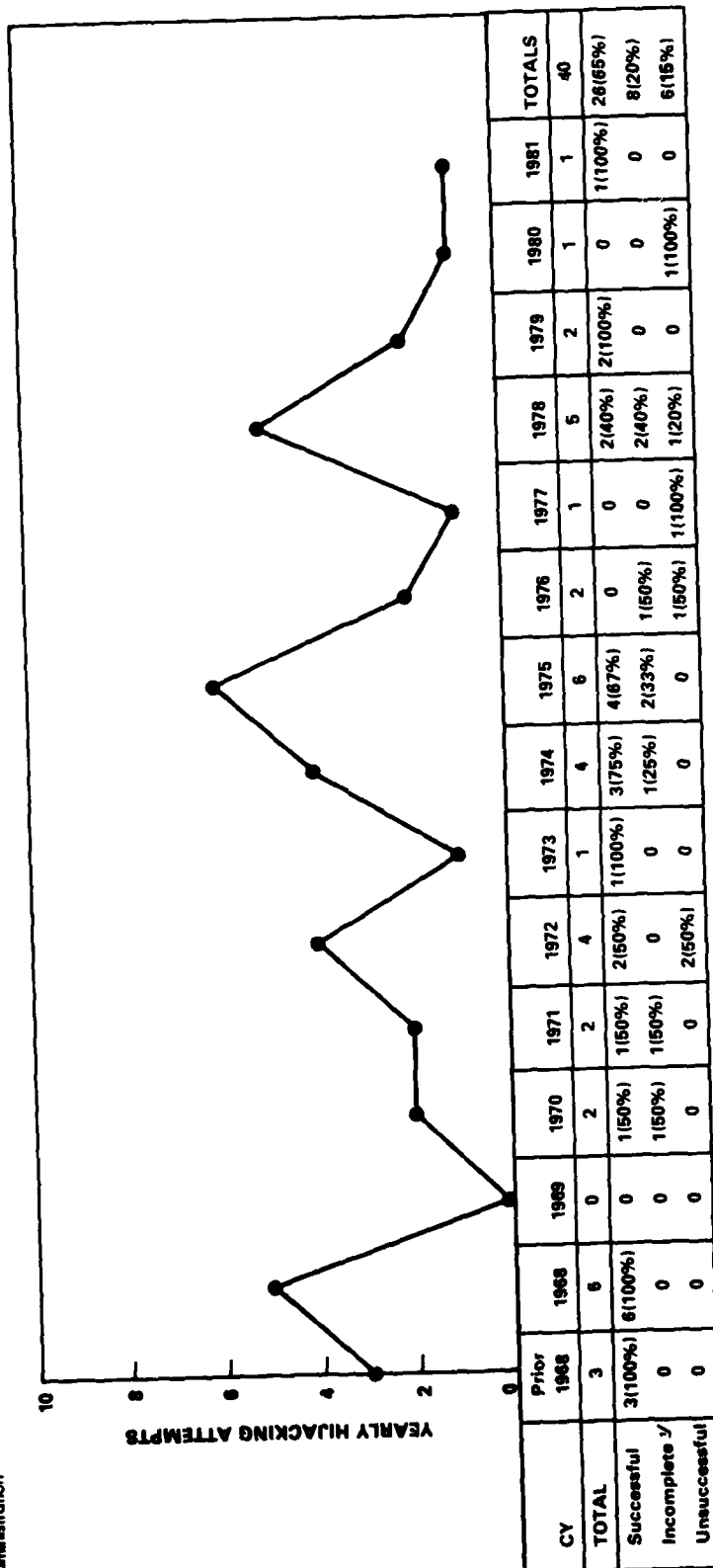
\*Includes General Aviation

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## Hijacking Attempts on U.S. General Aviation Aircraft



1/2 Hijacking in which hijacker is apprehended/killed during hijacking or as a result of "hot pursuit."

General Aviation Aircraft Hijacking Attempts Since Jan. 1, 1981

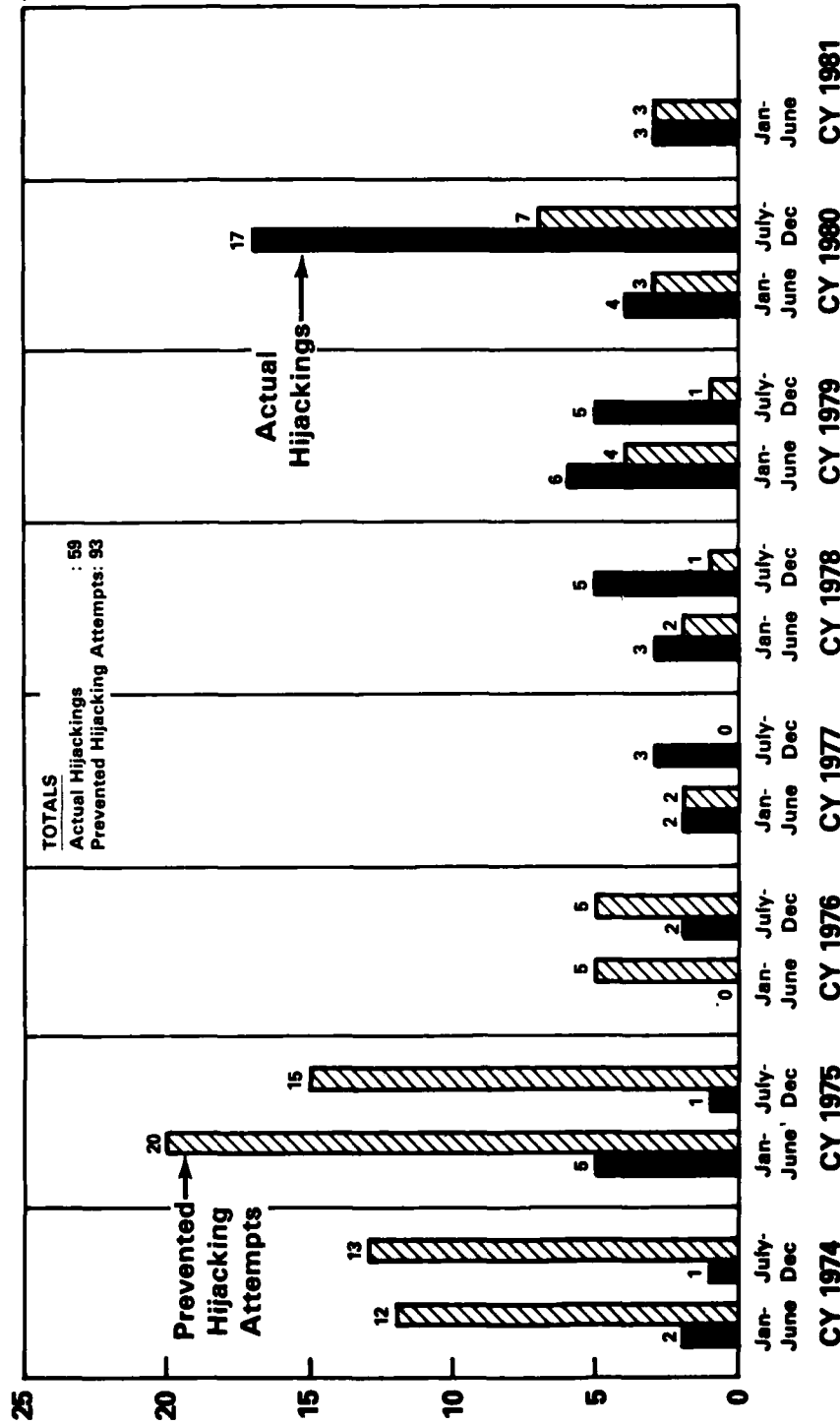
Date	Aircraft	Number Aboard	Hijacker's Boarding Point	Hijacker's Destination/ Objective
1/25	Helicopter/AS-360	3	Teterboro, N.J.	Prisoner Release

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## Actual Hijacking & Prevented Hijacking Attempts (U.S. Air Carrier Aircraft)



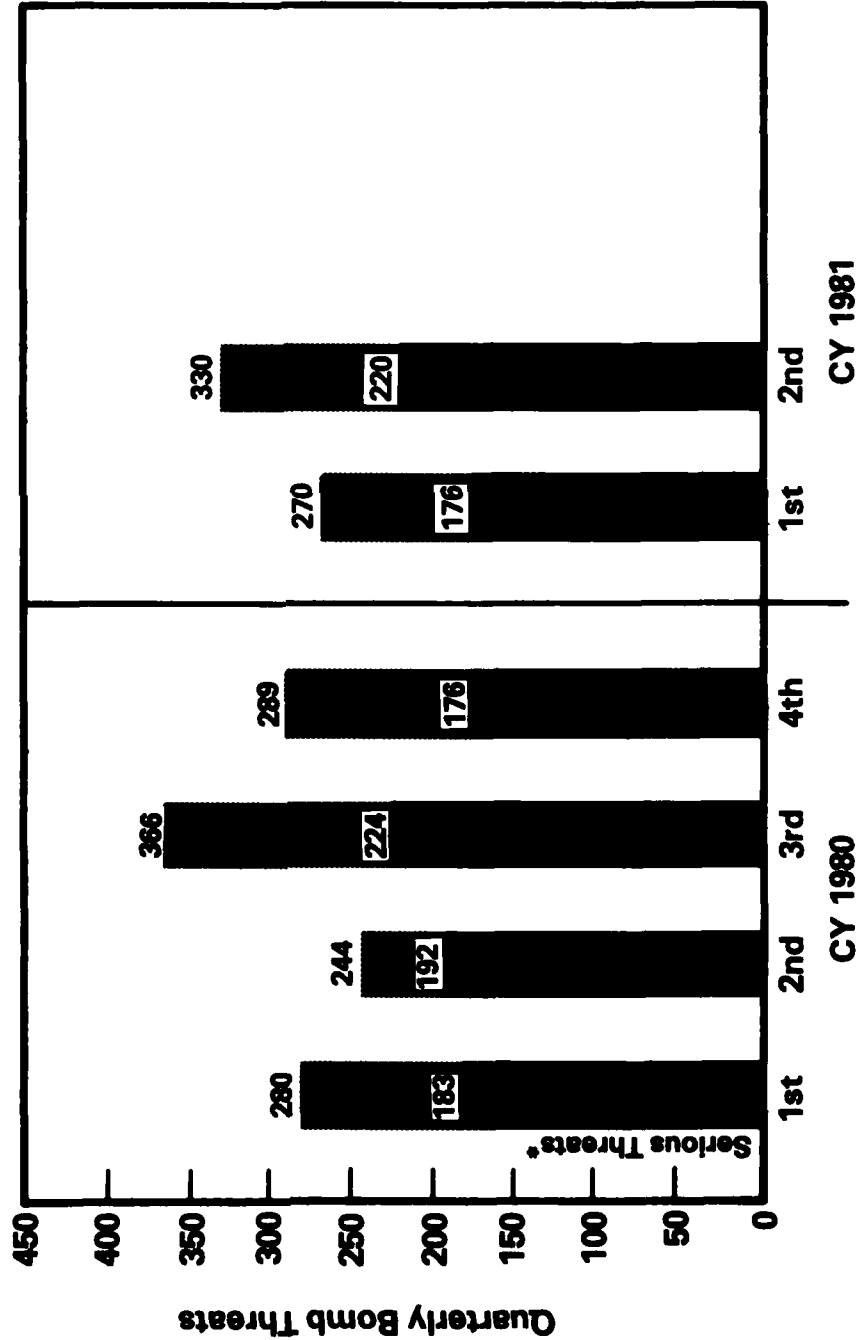
**PREVENTED ATTEMPTS:** Incidents in which it appeared the individuals involved intended to hijack an aircraft but were prevented from doing so by security procedures.

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## Bomb Threats Against U.S. Aircraft and Foreign Aircraft in the U.S.



\*A statement is considered a serious threat if one of the following occurs:

1. It is directed against a particular aircraft or flight.
2. It is not possible to immediately determine if it is made in a joking manner.
3. It results in inconvenience to other passengers.
4. It results in a search or otherwise disrupts airline operations.

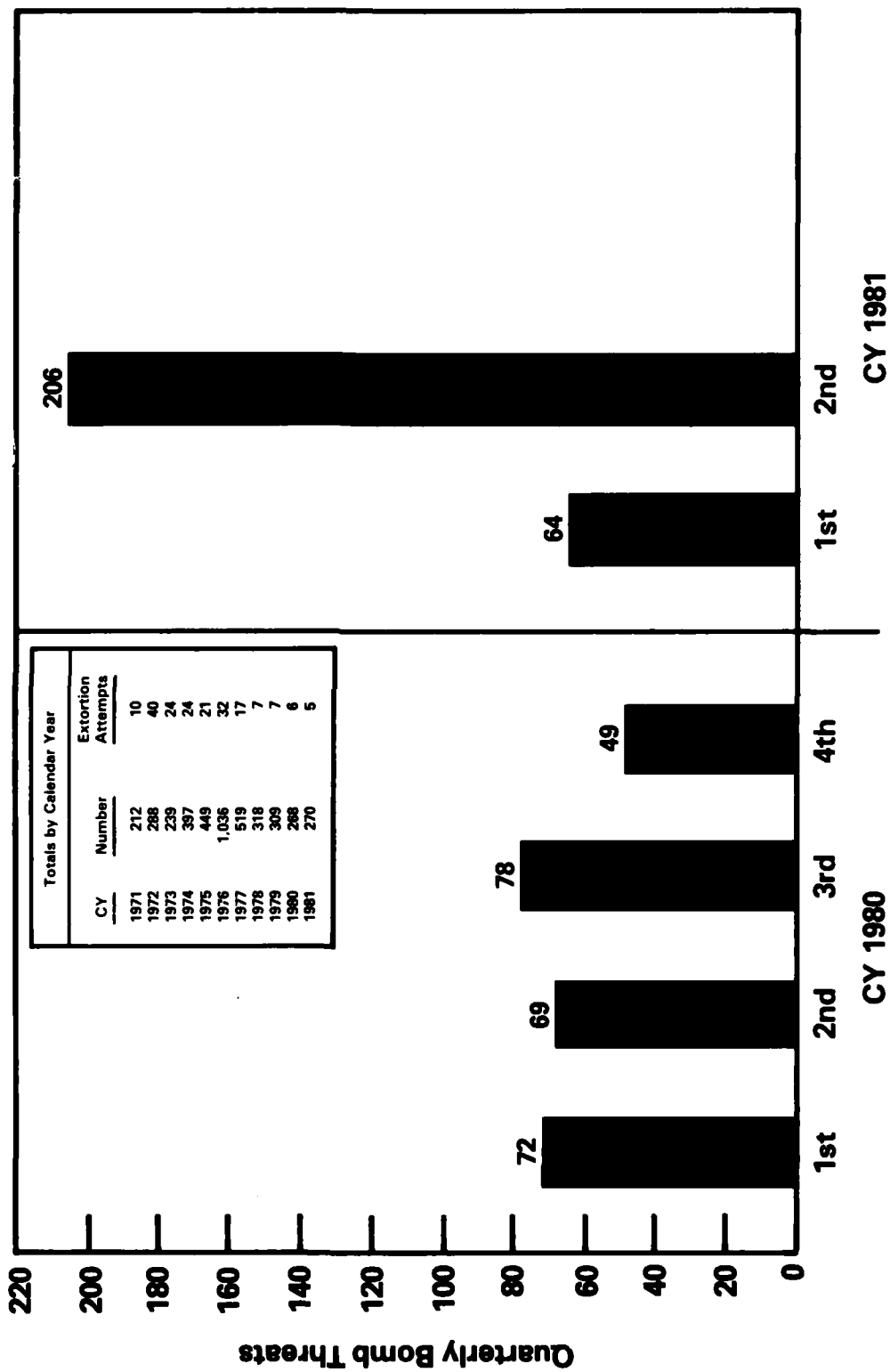
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## Bomb Threats Against U.S. Airports



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## *Civil Aviation Security The Threat To U.S. Aviation*

	1961-7	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
<u>Hijackings*</u>	12	22	40	27	27	31	2	7	12	4	6	13	13	22	4
<u>Explosions:</u>															
<u>Aircraft</u>	2	1	1	2	1	1	2	3	2	2	1	0	1	1	0
<u>Airports</u>						2	2	4	4	2	3	3	2	1	2
<u>Explosive Devices Found:</u>															
<u>Aircraft</u>					1	2	2	1	1	1	2	0	2	1	0
<u>Airports</u>					5	5	3	11	5	3	1	6	6	4	5
<u>Bomb Threats To:</u>															
<u>Aircraft</u>			400	601	1145	2156	1383	1453	1853	1950	1229	1032	1121	1179	600
<u>Airports</u>					212	288	239	387	449	1036	519	318	309	268	273

\*Includes Air Carrier and General Aviation Hijackings

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## Worldwide Criminal Incidents Involving Civil Aviation

Year	Deaths	Injuries	Total Incidents	Hijackings (Scheduled Air Carriers)	
				Foreign	U.S.A.
1968 *	2	2	30	13	17
1969 *	35	7	92	47	40
1970	92	32	82	56	25
1971	31	9	73	31	25
1972	159	96	88	31	27
1973	104	75	73	20	1
1974	170	59	62	19	3
1975	88	162	64	13	6
1976	227	200	55	13	2
1977	129	68	69	25	5
1978	81	147	71	17	8
1979	62	80	85	12	11
1980	4	75	100	16	21
1981	11	24	38	7	3

\* Statistical data prior to 1970 are approximations.

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## Civil Aviation Security Airline Passenger Screening Results January 1977-June 1981

	1977		1978		1979		1980		1981	
	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec
Persons Screened (Millions)	243.1	265.7	275.2	304.5	285.7	306.8	289.9	295.1	294.4	
Weapons Detected										
Firearms	874	1160	962	1096	990	1171	1002	1020	971	
(1) Handguns	745	985	836	991	902	1060	940	938	915	
(2) Long Guns	24	40	34	33	29	26	17	19	7	
(3) Other	105	135	92	72	59	85	45	63	49	
Explosive/Incendiary Devices	2	3	1	2	3	0	1	7	8	
Persons Arrested										
For Carriage of Firearms/ Explosives	370	440	404	492	469	591	520	511	534	
For Giving False Information	23	21	31	33	21	26	11	21	34	
Other Offenses Detected										
Narcotics	156	126	151	99	73	128	75	101	89	
Illegal Aliens	474	483	723	605	845	844	938	662	843	
Other	151	242	706	69	40	109	107	67	36	

Source: Reports Of Passenger Screening Activities at U.S. Airports

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## ***Civil Aviation Security Weapon Detection Devices***

<b>Type</b>	<b>Basic Characteristics</b>	<b>Manufacturer</b>	<b>Units</b>
<b>Walk-Thru Active</b>	<b>Creates and Measures Deviations in Own Electric Field. Detects. Both Ferrous and Non- Ferrous Metals.</b>	<b>Rens</b>	<b>645</b>
		<b>Infinetics</b>	<b>326</b>
		<b>Metor</b>	<b>77</b>
		<b>Westinghouse</b>	<b>28</b>
		<b>Sperry Rand</b>	<b>11</b>
		<b>Solco</b>	<b>21</b>
		<b>Sentrie</b>	<b>199</b>
		<b>Philips</b>	<b>4</b>
		<b>Total</b>	<b>1311</b>
<b>Hand-Held Active</b>	<b>Comparable to Walk- Thru Active. Limited Effective Range.</b>	<b>Rens</b>	<b>230</b>
		<b>Federal</b>	<b>250</b>
		<b>Solco</b>	<b>720</b>
		<b>Total</b>	<b>1200</b>

**Total — All Types — 2511**

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## ***Civil Aviation Security X-Ray Baggage Inspection Systems***

### **Characteristics:**

Small Dose X-Ray, Intensify Image Electron-  
ically, Display on TV

### **Operating Criteria:**

Meet FDA/BRH and State Health Standards  
Distinguish 24 Gauge Wire

### **Limitations:**

Dependent on Diligence of Operators,  
Demands Constant Attention and Ability to  
Quickly Recognize Dangerous Articles

### **Systems In Use:**

Astrophysics  
Philips Electronic Instruments  
Bendix  
American Science & Engineering  
New Security Concepts  
Dennis & Miller  
Picker

381  
126  
115  
57  
29  
23  
8  

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739

**Total:**

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## *Civil Aviation Security Basic Policies*

<u>PROGRAM ELEMENT</u>	<u>RESPONSIBILITY</u>	<u>ACTIONS</u>
AIR CARRIERS	SECURE TRAVEL	<ul style="list-style-type: none"><li>• MAINTAIN RESPONSIVE SECURITY PROGRAMS</li><li>• SCREEN PASSENGERS, CARRY-ON ITEMS</li><li>• SECURE BAGGAGE, CARGO PROCEDURES</li><li>• PROTECT AIRCRAFT</li></ul>
AIRPORTS	SECURE OPERATING ENVIRONMENT	<ul style="list-style-type: none"><li>• MAINTAIN RESPONSIVE SECURITY PROGRAMS</li><li>• PROTECT AIR OPERATIONS AREA</li><li>• PROVIDE LAW ENFORCEMENT SUPPORT</li></ul>
FAA	LEADERSHIP	<ul style="list-style-type: none"><li>• IDENTIFY AND ANALYZE THREAT</li><li>• PRESCRIBE SECURITY REQUIREMENTS</li><li>• COORDINATE SECURITY OPERATIONS</li><li>• PROVIDE TECHNICAL ASSISTANCE</li><li>• ENFORCE REGULATIONS</li></ul>
USERS	PROGRAM COSTS	<ul style="list-style-type: none"><li>• SECURITY FUNDED AS OPERATING COST OF SYSTEM</li></ul>



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## ***Civil Aviation Security Regulatory Impact***

	<u>U.S.</u>	<u>FOREIGN</u>	<u>TOTAL</u>
Carriers	90	100	190
Airports	379	265	644
Aircraft	2,600	1,075	3,675
Flights Per Day	14,600	650	15,250
Screening Activity Per Day:			
Persons	1,626,000	110,000	1,736,000
Carry-On Items	1,661,000	100,000	1,761,000

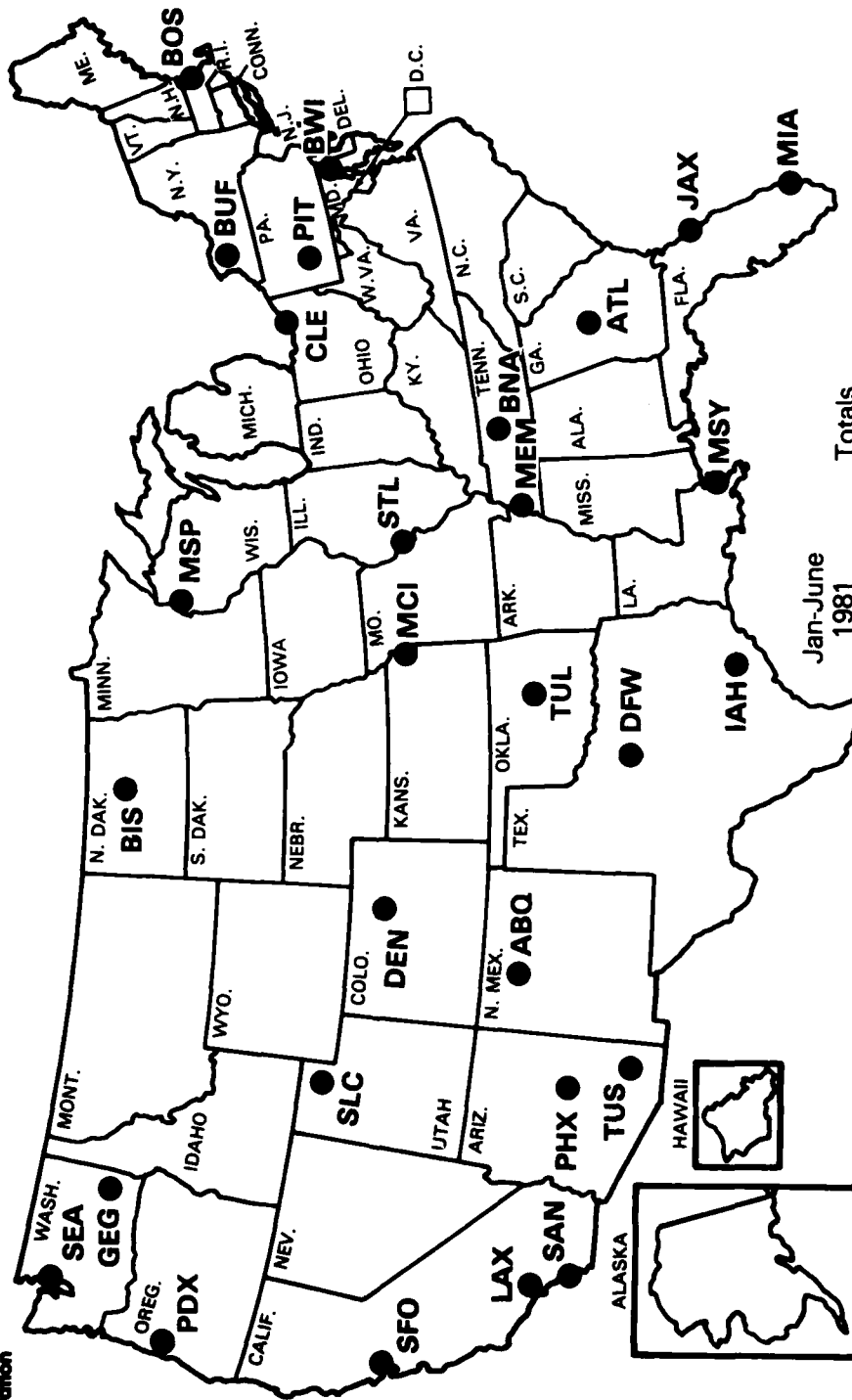
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# FAA Sponsored Explosive Detection K9 Teams Locations and Utilization



	Jan-June 1981	Totals
Aircraft & Airport Searches	486	5,690
Explosive Items Detected	13	44
Missions in Local Communities	381	6,052
Explosive Items Detected	43	177
Total Explosive Items Detected	56	221

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As Of: 7/1/81

# ***Civil Aviation Security Research and Development Explosive Detection***

## **X-Ray Absorption**

- One Unit Sent to FAA Technical Center for Testing to Gather Additional Airport Data
- One Unit Operational Evaluation Completed June 1981 — Over 65,000 Baggage Articles Processed — Report of Evaluation Due September 1981

## **Thermal Neutron Activation**

- Prototype Evaluated at Two Airports
- Data Analyzed Appears Promising for Air Cargo
- Evaluation of System for Air Cargo Scheduled Fall 1981

## **Nuclear Magnetic Resonance**

- Test at Dallas-Fort Worth International Airport Proved Successful
- Action Initiated to Convert Research and Development Prototype to Operational Prototype

## **Vapor Characterization**

- Study Completed September 1980 Identified Specific Vapors Emanating from Explosives—Final Report Due Summer 1981
- Preparing Specifications for Development of Explosive Vapor Detector

## **Biological**

- Use of Small Mammals (Gerbils, Rats) to Detect Explosive Vapors
- Proven that Gerbils can be Trained to Detect Odors and Perform Specific Functions
- Sensitivity Testing Progressing Satisfactorily

## **Walk by Explosive Detector**

- System Being Developed by Transportation Systems Center
- Test and Evaluation of Prototype Expected Summer 1981



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## ***Civil Aviation Security Foreign Technical Assistance***

<b>Actions</b>	<b>Countries Participating</b>
● <b>FAA Technical Assistance Team Visits</b>	<b>28</b>
● <b>Aviation/Law Enforcement Officials Briefings</b>	<b>71</b>
● <b>Training Programs:</b>	
— Aviation Security Course (Students)	<b>76 (342)</b>
— Antihijacking Tactics	<b>45</b>
— Ground Explosive Security	<b>68</b>
— Inflight Explosive Security	<b>91</b>
— Passenger Screening	<b>32</b>
● <b>Analytical Studies Distribution</b>	<b>20</b>

As of: 7/1/81

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